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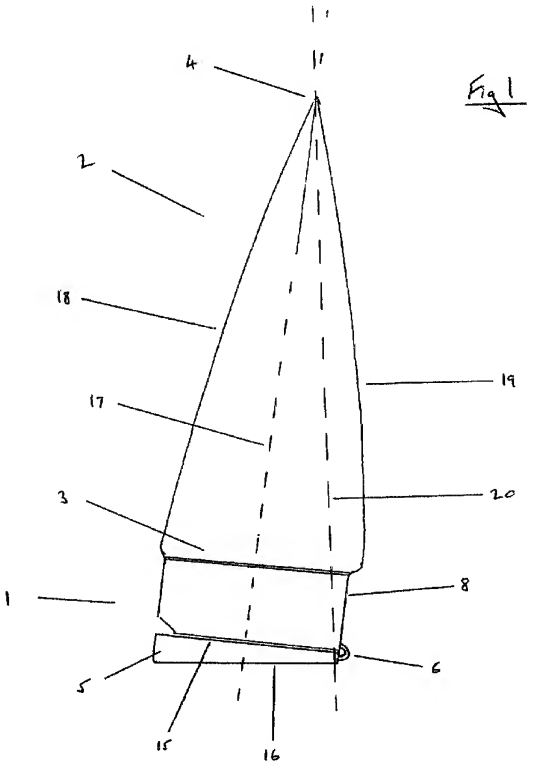
(54) Closure for containers

(57) The closure (1) of a closure/container combination such as a tube container (2), has a panel (5) forming a base on which the container can stand in an upright condition. A face (16) of the panel extends at an angle of between 4° and 20° to the normal to the longitudinal axis of the tube (2) such that when the tube is standing on a horizontal surface, the longitudinal axis is at an angle of between 4° and 20° to the vertical. This causes the front face (18) of the tube to be slanted slightly backwardly, making information printed thereon more easily discernible.



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Description

[0001] This invention relates to closures for containers, and to closure/container combinations in which the container is designed to stand upright using the closure as its base. Many containers, especially tube-like containers, have a closure which is adapted to form the base of the container. The present invention proposes a closure and a closure/container combination which provides improvements to this type of package.

[0002] Accordingly there is provided a closure/container combination, the container being at least partially elongate in character and having a longitudinal axis, the closure being attached to the container at one end thereof, the closure including a substantial planar panel adapted in a sealed position to form a base on which the closure/container combination can stand in an upright position, characterised in that the panel is disposed in its sealed position at an angle to the normal to the longitudinal axis of the container of between 4 and 20°, such that when the closure/container combination is standing on the panel on a horizontal surface the longitudinal axis is at an angle of between 4 and 20° to the vertical.

[0003] By providing an angled base panel, the container can be made to lean slightly in one direction (eg backwardly) when placed on a horizontal surface such as a shelf. This can improve the appearance and visibility of the container, especially where a plurality of containers are disposed in a particular area. Information on the opposite (eg front) face of the container is more easily discernible, as it is angled towards the user in a more user-friendly fashion.

[0004] The panel is conveniently disposed at an angle of between 4 and 10°, and preferably between 5 and 7°, to the normal to the longitudinal axis. The precise angle may depend on the particular design of closure/container combination, in particular its aspect ratio.

[0005] The closure preferably includes a skirt extending from the periphery of the panel parallel to the longitudinal axis of the container. The skirt is conceivably provided with means for attaching the closure to the container. Conveniently there is also provided means for preventing rotation between the closure and the container once they have been attached one to the other. The prevention of rotation is especially advantageous if the container has discernible front and back portions, or to ensure that the closure/container combination leans such that information present one particular part of the container is particularly visible. Preferably the means for preventing rotation between the closure and the container comprises complimentary ratchet elements present on both a first part of the closure and a corresponding part of the container.

[0006] The closure is conveniently a hinged-lid closure, with the panel forming the hingable lid of the closure. It should be understood that references to the panel being angled "when in its sealed position" relates to this type of closure when it is fully closed. The container conveniently tapers to an apex at the opposite end of the container to the closure, such as in a crimped tube. With a tapered container, the angled base panel can be used to ensure that one face of the container, eg the back of the container, is made to appear substantially vertical despite the tapering of the container.

[0007] Accordingly, according to a further aspect of the invention, there is provided a closure/container combination, the container being at least partially elongate in character and having a longitudinal axis, the closure being attached to the container at one end thereof and the container tapering to a apex at the opposite end thereof, the closure comprising a substantially planar panel adapted in a sealed position to form a base on which the closure/container combination can stand in an upright position, characterised in that the panel is disposed in its sealed position at an angle to the normal to the longitudinal axis of the container such that when the closure/container combination is standing on the panel on a horizontal surface a line drawn from the apex of the container to the periphery of the panel is less than ± 5° from the vertical.

[0008] According to a final aspect of the invention there is provided a closure for a container, the closure comprising a substantially planar panel adapted in a sealed condition to form a base on which the container can stand, and a skirt extending from the periphery of the panel in a longitudinal direction, and means for attaching the closure to a container, characterised in that the panel is disposed at an angle to the normal to the longitudinal axis of the skirt of between 4 and 20° such that when the closure is standing on the panel on a horizontal surface the longitudinal axis of the skirt is at an angle of between 4 and 20° to the vertical.

[0009] The invention will now be further described, by way of example only, with reference to the accompanying drawings, in which;

Fig. 1 is a schematic side view of the closure/container combination in accordance with the present invention, and
Fig. 2 is an underneath perspective view of the closure of Fig. 1.

[0010] Referring to Fig. 1 the closure/container combination comprises a closure shown generally at (1) and a tube container shown generally at (2). The tube (2) includes an open end (3) having a neck feature (not shown), and tapers in shape to a crimped apex (4). The open end (3) is sealed by the closure (1), which comprises a base panel in the form of a hinge-lid (5) attached by a hinge element (6) to a shell (8).

[0011] As seen in Fig. 2, the shell (8) comprises a head plate (9) with an outer skirt (10) depending therefrom. A dispensing aperture (11) is present in the head plate (9), and there is also an inner skirt (12) depending from the head plate and surrounding the aperture (11).

The inner skirt is designed to cooperate with the neck feature of the tube (2) so as to secure the closure (1) and tube (2) one to the other. The internal surface of the inner skirt (12) has an annular bead (13) which cooperates with a corresponding bead (not shown) on the neck feature of the tube to allow the closure (1) and tube (2) to be joined together in a snap fit arrangement. Also present on the inner skirt (12) is a plurality of ratchet elements (14), which cooperate with similar elements (not shown) on the neck feature of the tube to limit rotation of the closure (1) with respect to the tube (2).

[0012] As will be seen most clearly from Fig. 1, the lid (5) is generally tapered, having an internal face (15) which is parallel to the head plate (9), and an external face (16) which is angled at approximately 6° thereto. Thus when the tube (2) is placed on a horizontal surface resting on the face (16) of the closure, the longitudinal axis (17) of the tube extends at an angle of 6° to the vertical. This means that the front face (18) of the tube is slanted slightly backwardly, making information printed thereon more easily discernible. Conversely, the back face (19) of the tube is more vertical in nature, and in fact an imaginary line (20) drawn from the apex (4) of the tube to the periphery of the external face (16) is approximately vertical.

[0013] It will be appreciated that closures other than the hinged lid closures illustrated herein may be employed with angled base panels as hereinbefore described. For example, push pull closures, "discloc" closures and conceivably even closures with a bayonet type securing mechanism could be used as alternatives to the hinged lid closure illustrated. Similarly, containers other than tubes can also benefit from the arrangement of the present invention.

Claims

1. A closure/container combination, the container being at least partially elongate in character and having a longitudinal axis, the closure being attached to the container at one end thereof, the closure including a substantially planar panel adapted in a sealed position to form a base on which the closure/container combination can stand in an upright position, **characterised in that** the panel is disposed in its sealed position at an angle to the normal to the longitudinal axis of the container of between 4 and 20°, such that when the closure/container combination is standing on the panel on a horizontal surface the longitudinal axis is at an angle of between 4 and 20° to the vertical.

2. A closure/container combination according to claim 1 **characterised in that** the panel is disposed at an angle of between 4 and 10° to the normal to the longitudinal axis.

3. A closure/container combination according to claim 2 **characterised in that** the panel is disposed at an angle of between 5 and 7° to the normal to the longitudinal axis.

4. A closure/container combination according to any of claims 1 to 3 **characterised in that** the closure includes a skirt extending from the periphery of the panel parallel to the longitudinal axis of the container.

5. A closure/container combination according to any preceding claim **characterised in** there is also provided means for preventing rotation between the closure and the container once they have been attached one to the other.

6. A closure/container combination according to claim 5 **characterised in that** the means for preventing rotation between the closure and the container comprises complimentary ratchet elements present on both a first part of the closure and a corresponding part of the container.

7. A closure/container combination according to any preceding claim **characterised in that** the closure is a hinge lid closure, with the panel forming the hingeable lid of the closure.

8. A closure/container combination according to any preceding claim **characterised in that** the container tapers to an apex at the opposite end of the container to the closure.

9. A closure/container combination according to claim 8 **characterised in that** the container is a crimped tube.

10. A closure/container combination, the container being at least partially elongate in character and having a longitudinal axis, the closure being attached to the container at one end thereof and the container tapering to an apex at the opposite end thereof, the closure comprising a substantially planar panel adapted in a sealed position to form a base on which the closure/container combination can stand in an upright position, **characterised in that** the panel is disposed in a sealed position at an angle to the normal to the longitudinal axis of the container such that when the closure/container combination is standing on the panel on a horizontal surface a line drawn from the apex of the container to the periphery of the panel is less than ± 5° from the vertical.

11. A closure for a container, the closure comprising a substantially planar panel adapted in a sealed condition to form a base on which the container can stand, a skirt extending from the periphery of the

panel in a longitudinal direction, and means for attaching the closure to a container, **characterised in that** the panel is disposed at an angle to the normal to the longitudinal axis of the skirt of between 4 and 20° such that when the closure is standing on the panel on a horizontal surface the longitudinal axis of the skirt is at an angle of between 4 and 20° to the vertical.

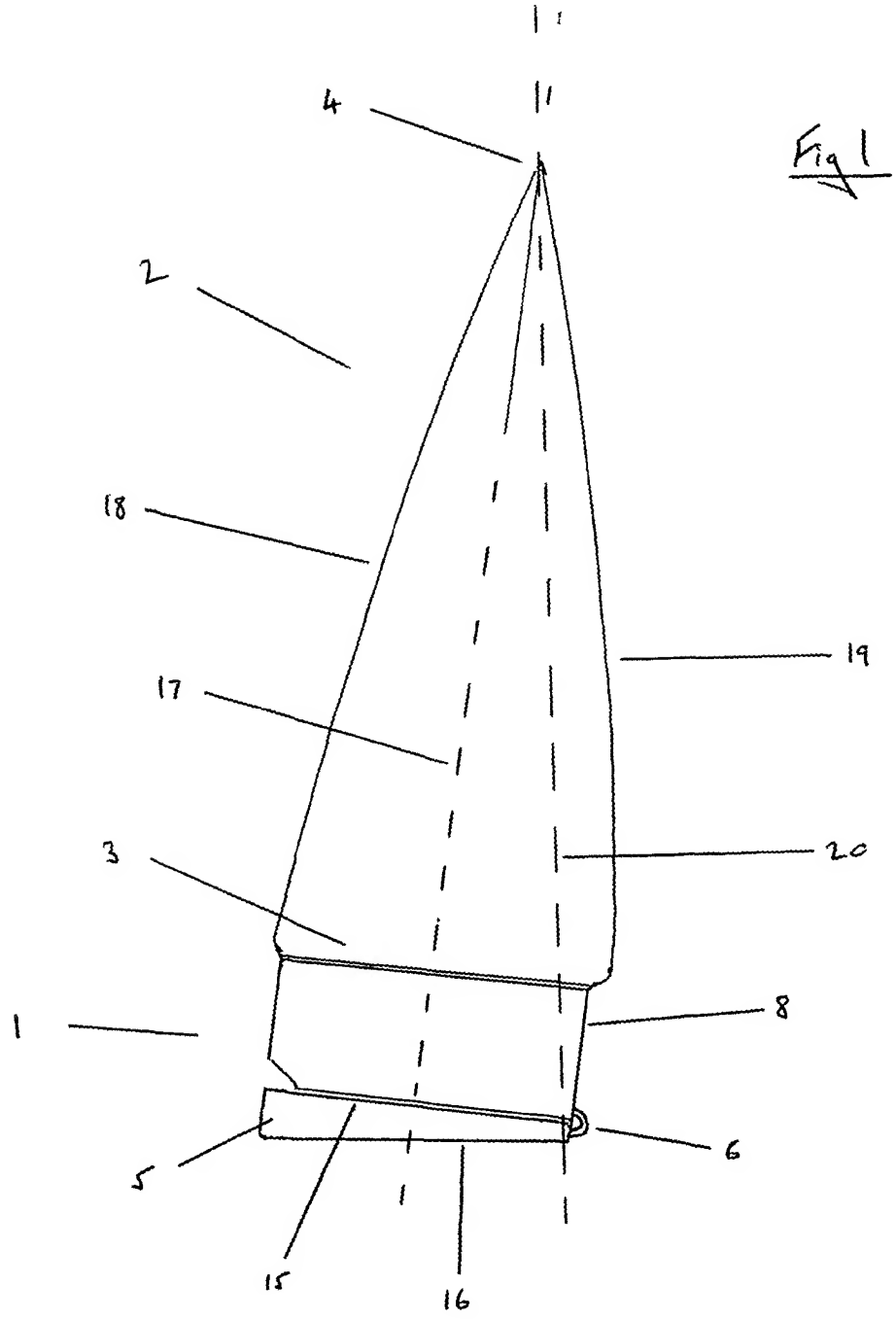

Fig 1

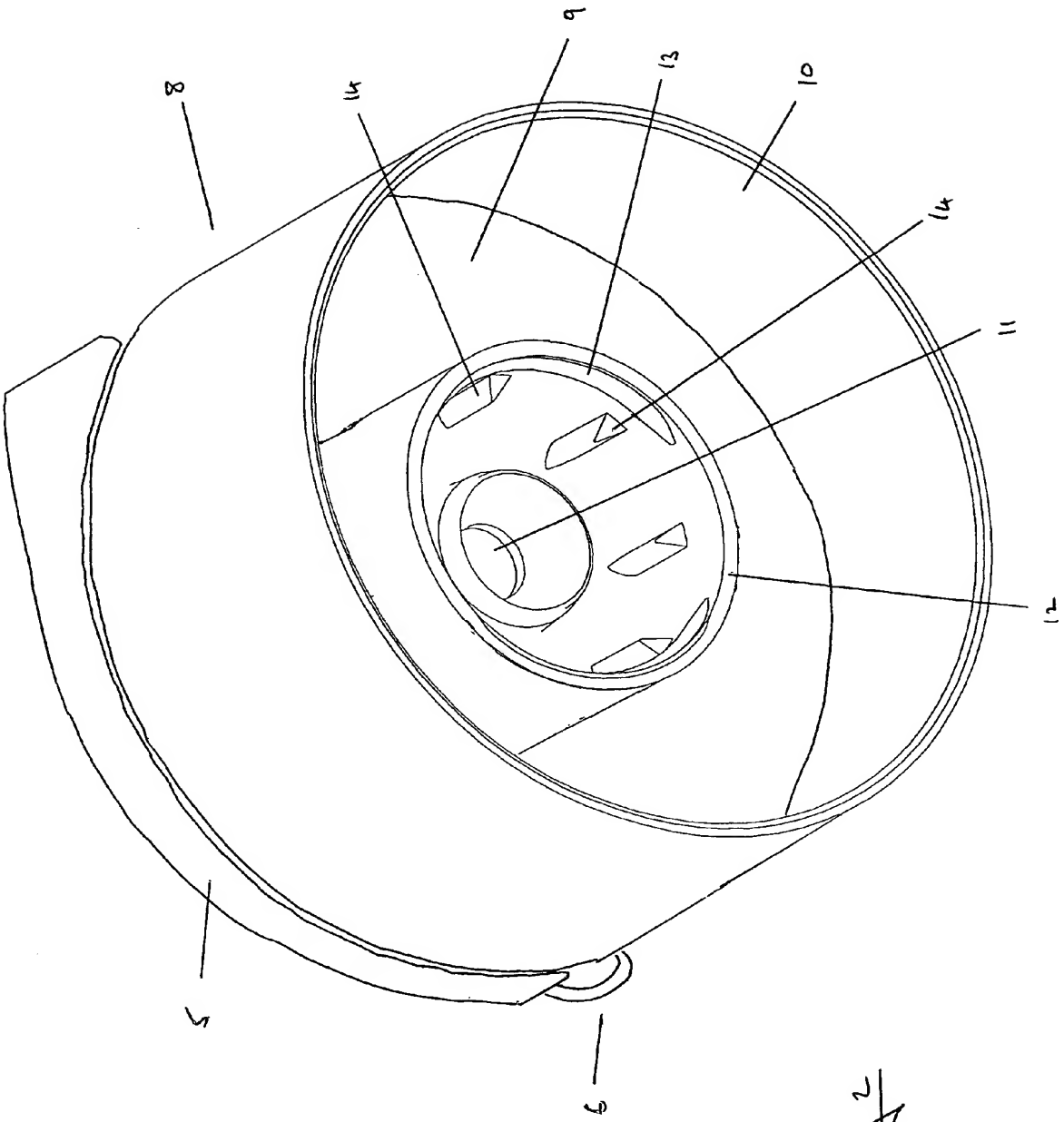

Fig. 2

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EUROPEAN SEARCH REPORT

Application Number
EP 00 30 6208

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
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			TECHNICAL FIELDS SEARCHED (Int.Cl.7) B65D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	29 November 2000	Gino, C

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 00 30 6208

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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